



LIVE INTERACTIVE LEARNING @ YOUR DESKTOP

Show Me the Money – Grant Funds in ESSA for Science and STEM

Presented by: Jodi Peterson, Larry Plank, and Missi Zender-Sakach

April 3, 2019

6:30 p.m. ET / 5:30 p.m. CT / 4:30 p.m. MT / 3:30 p.m. PT

Introducing today's presenters...



Jodi Peterson

Assistant Executive Director of Legislative and Public Affairs
National Science Teachers Association



Larry R. Plank

Director of Science, Technology, Engineering and
Mathematics Education
Hillsborough County Public Schools



Missi Zender-Sakach

President
National Science Education Leadership Association



NSTA Resources and ESSA Title I – Integrating Science and Literacy



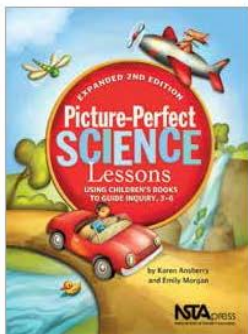
Popular Series

TEACHING THE **Picture-** Integrating Reading, Science, and Inquiry

Never before has it been this easy to interest students in reading and science. The Picture-Perfect Science Program combines the appeal of children's picture books with standards-based science content. The award-winning book series contains lessons, complete with student pages and assessments, which use picture books to guide science instruction. Teachers will love the convenience of our accompanying collections of children's books—including the children's trade books cited in all five of the Picture-Perfect books. We also offer ready-to-use ClassPacks, which include all of the materials needed to make performing the classroom-tested lessons even easier.

New this year! Let NSTA help you make the most of a school or district Picture-Perfect purchase with teacher professional learning opportunities (see pp. 28–29), led by the authors or expert trainers, to support implementation of the program.

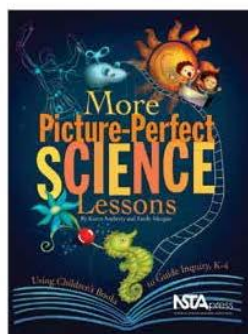
Book	Members: \$33.56	Non-members: \$41.95
E-book	Members: \$25.17	Non-members: \$31.46
Book/E-book Set	Members: \$40.27	Non-members: \$50.34



Picture-Perfect Science Lessons

Expanded 2nd Edition
Karen Ansberry and Emily Morgan
NSTA PRESS, GRADES 3–6

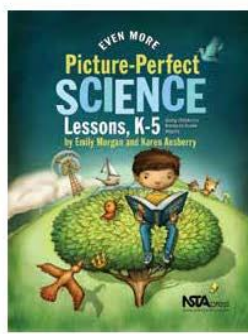
© 2010; ISBN: 978-1-938185-16-4; 403 pages
Stock #: PK186E2
E-book #: PKEB186E2
Book/E-book Set #: PKE186E2



More Picture-Perfect Science Lessons

Karen Ansberry and Emily Morgan
NSTA PRESS, GRADES K–4

© 2007; ISBN: 978-1-933531-12-0; 238 pages
Stock #: PK186X2
E-book #: PKEB186X2
Book/E-book Set #: PKE186X2



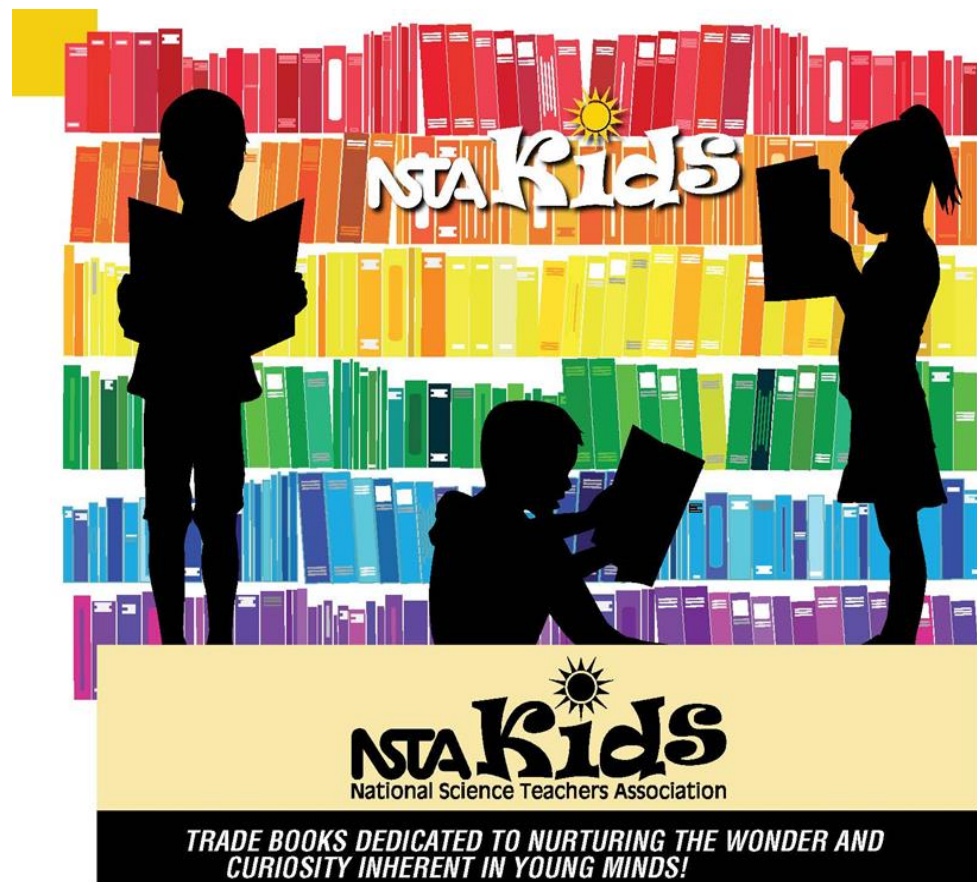
Even More Picture-Perfect Science Lessons

Emily Morgan and Karen Ansberry
NSTA PRESS, GRADES K–5

© 2013; ISBN: 978-1-938185-17-1; 302 pages
Stock #: PK186X3
E-book #: PKEB186X3
Book/E-book Set #: PKE186X3

Buy all three volumes together and save!

Stock #: PK186X3
Members: \$95.96 Non-members: \$119.95



Science educators have long known the benefits of using children's picture books to help teach important science concepts. And every parent has experienced strings of "why" questions from little ones—

- Why do some birds have pointy beaks?
- Why is a siren so loud?
- Why do we find seashells on the beach?
- Why does the sky change color when the Sun sets?

NSTA Kids fills the needs of both teachers and parents by providing lively children's picture books that also impart sound science. Engaging narratives and bold, bright graphics help make science fun and encourage children to curl up with a good book and keep asking, "Why?"

NSTA Resources and ESSA Title II



NSTA PROFESSIONAL LEARNING PACKAGES

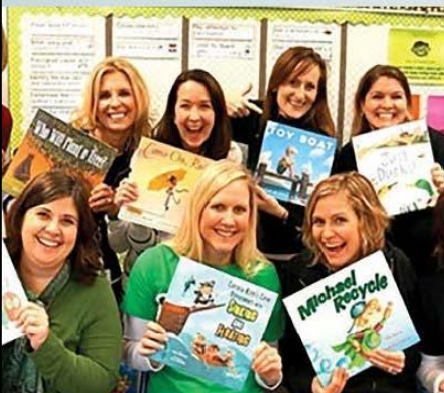
Partner with NSTA to take your professional learning days to the next level. NSTA now offers tailored packages of books and workshops on popular topics—for schools, districts, or states!

- Keynote Presentations
- One- and Two-Day Workshops
- Train-the-Trainer Opportunities
- Onsite, Online, or Blended Experiences

Connect science and literacy in the early years with the *Picture-Perfect Science* series. Capture the vision behind the *Uncovering Student Ideas* books and learn everything you need to know about using formative assessment probes. Get training on the innovative approach to lab instruction that forms the core of the *Argument-Driven Inquiry* series. Take a deep-dive into *three-dimensional instruction and science standards*. Introduce your colleagues to the concepts behind *Outdoor Science*. Harness *The Power of Questioning*. Or line up another topic of your choice—including *Using Gadgets and Gizmos*, *Solar Science*, *Once Upon a Science Book*, and many others.

Authors and other trained experts are available throughout the year to bring these classroom-tested approaches to your school or district!

For more information on professional learning opportunities and grant partnerships, please contact **Kim Stilwell** at **703-312-9247** or **kstilwell@nsta.org**.



Professional Learning for Science and Literacy: Using Children's Books to Inspire Scientific Learning



NSTA Resources and ESSA Title II for Professional Learning



NSTA Conferences

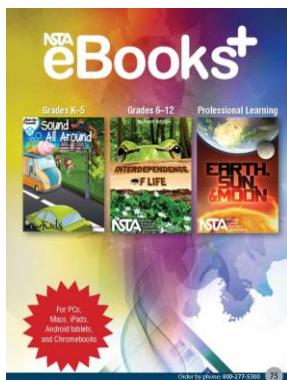
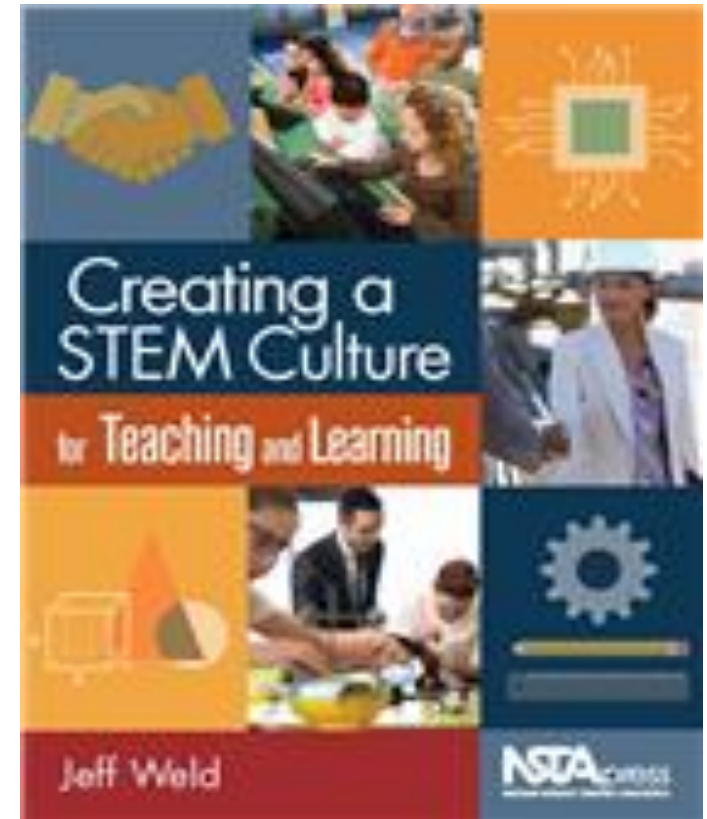
***St. Louis (National):
April. 11–14, 2019***

***STEM Forum & Expo:
July 24–26, 2019***

***Fall Conferences:
Salt Lake: Oct. 24–26
Cincinnati: Nov. 14–16
Seattle: Dec 12–14***



NSTA Resources and ESSA Title IV-A





***SHOW ME THE MONEY –
GRANT FUNDS IN ESSA FOR
SCIENCE AND STEM
APRIL 3, 2019***

ADVOCATE... COLLABORATE... EDUCATE...



NSTA'S ALLIANCE OF AFFILIATES



- Association for Multicultural Science Education (AMSE)
- Association for Science Teacher Education (ASTE)
- Association of Science-Technology Centers (ASTC)
- The Association of Science-Technology Centers
- Council for Elementary Science International (CESI)
- Council of State Science Supervisors (CSSS)
- National Association for Research in Science Teaching (NARST)
- National Middle Level Science Teachers Association (NMLSTA)
- National Science Education Leadership Association (NSELA)
- Society for College Science Teachers (SCST)



NSELA

NATIONAL SCIENCE
EDUCATION LEADERSHIP
ASSOCIATION

NATIONAL SCIENCE EDUCATION LEADERSHIP ASSOCIATION



Dr. Missi Zender-Sakach
President

Our Mission

NSELA catalyzes leadership to maximize effective science teaching and learning in a complex and changing environment.

We connect and support emerging and experienced leaders by providing:

- **high quality professional development,**
- **a collegial network,**
- **access to research and resources, and**
- **a voice for leaders in science education.**

ADVOCATE... COLLABORATE... EDUCATE...



NSELA'S LEADERSHIP TEAM



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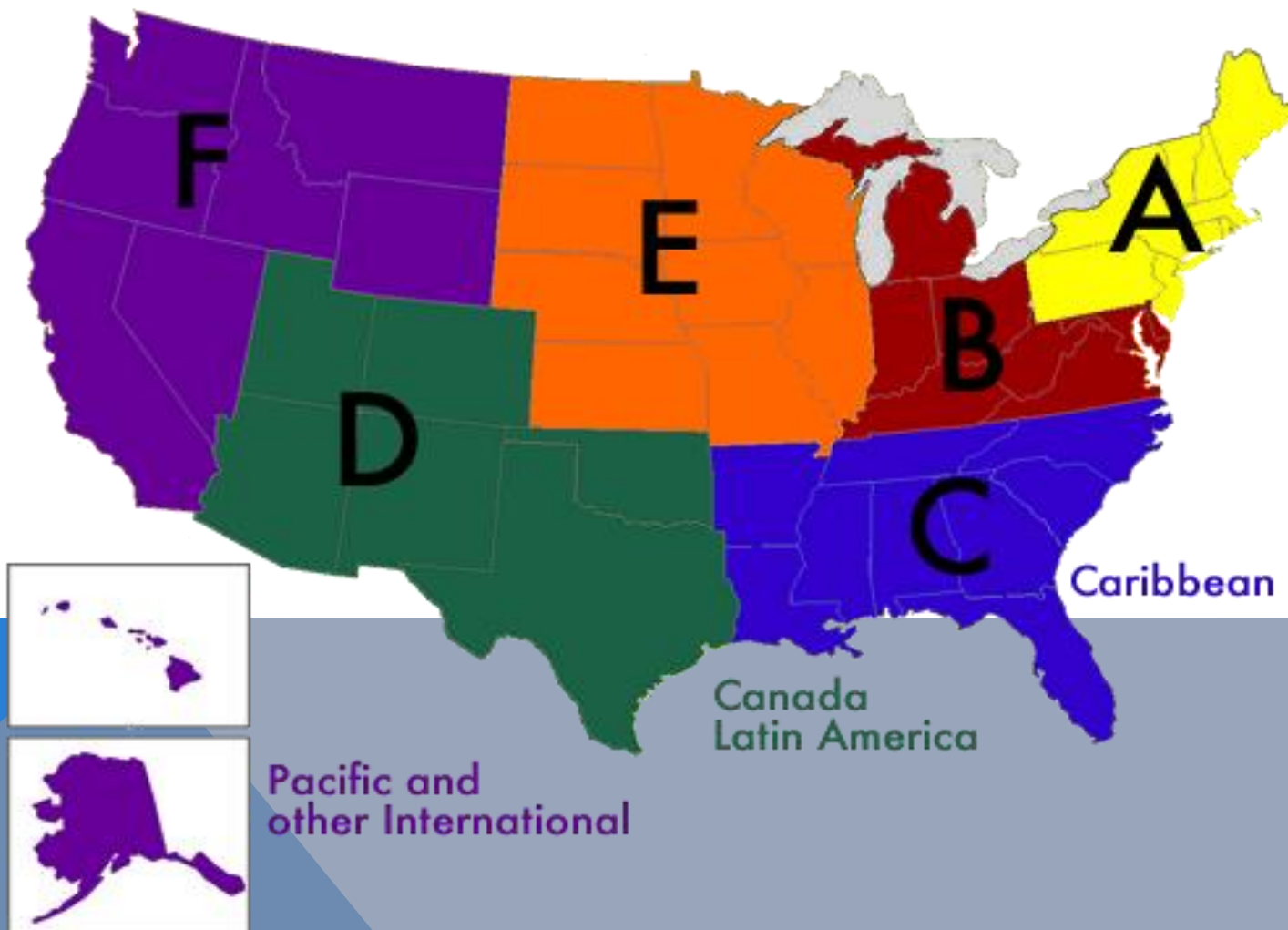
ADVOCATE... COLLABORATE... EDUCATE...



NATIONAL SCIENCE EDUCATION LEADERSHIP ASSOCIATION (NSELA)

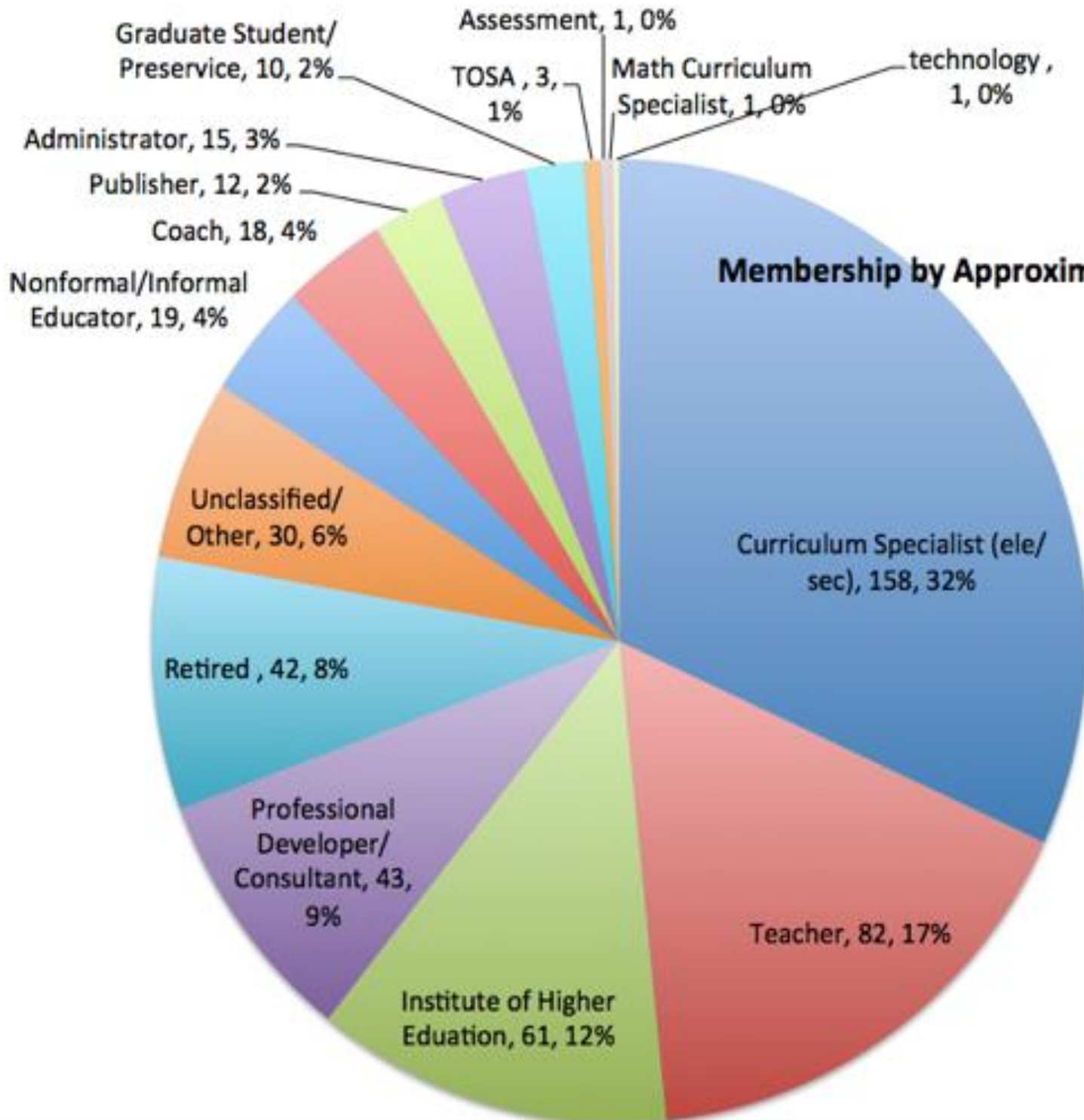


NSELA Regions





Membership by Approximate Category, February 2016





NATIONAL SCIENCE EDUCATION LEADERSHIP ASSOCIATION



2019 NSELA Leadership Summit



Spanning the Leadership Arch:
From Emerging to Veteran Leaders

April 10, 2019

St. Louis

Hyatt Regency at the Arch



NSELA

NATIONAL SCIENCE
EDUCATION LEADERSHIP
ASSOCIATION

Teaching Science is Phenomenal

Using Phenomena to Engage Students in Three-Dimensional Science Performances Consistent with the NRC Framework and NGSS



Organizing Student Science Performances Using
5E and **Gather, Reason, Communicate**
Instructional Sequences

Brett D. Moulding & Rodger W. Bybee





NATIONAL SCIENCE EDUCATION LEADERSHIP ASSOCIATION



**2019 Summer Leadership Institute
June 23-27, 2019, Orlando, FL**

**For More Information:
Professional Development Committee Chair
Elizabeth Mulkerrin
elizabethm@omahazoo.com**

<http://www.nsela.org>



Thank You!
Dr. Missi Zender-Sakach
Email: missiz@summitesc.org



**Let's pause for two questions
from the audience**



Every Student Succeeds Act: Key Takeaways



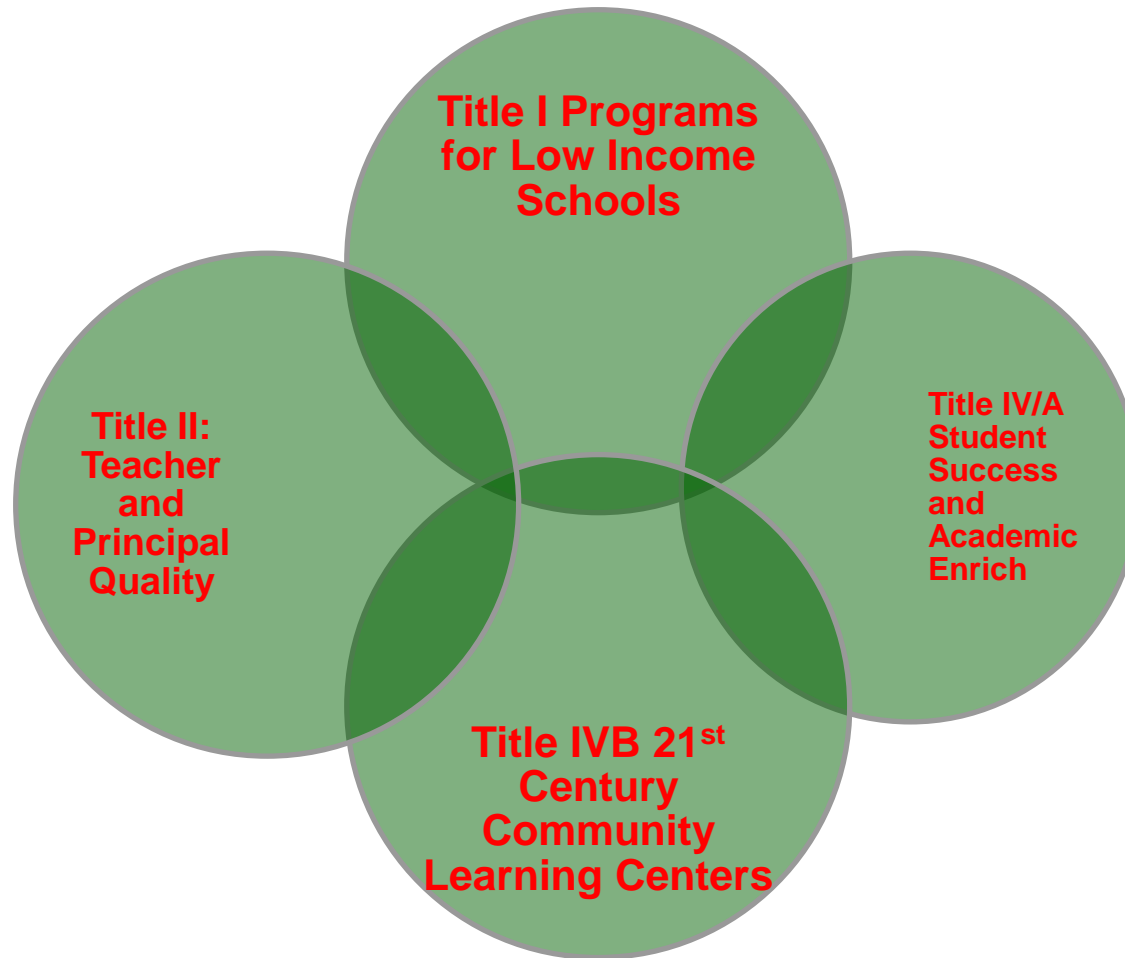
- **Equity:** States and districts are still accountable for student performance and must focus on performance of disadvantaged and low income students.
- **Reduces the federal footprint in K-12 education.**
- **Flexibility:** States and districts have more flexibility with funding.
- **Teacher Quality:** Eliminates federal mandate for evaluation systems.
- **Accountability:** States now determine accountability systems.
- **Continues testing** in Math and Reading. Science testing must continue, but states determine if science is part of their accountability.
- **Eliminates Math and Science Partnership** (Title IIB). Funds science and STEM activities throughout the law.

Titles under the Every Student Succeeds Act



- **Title 1: Improving the Academic Achievement of the Disadvantaged**
- **Title II: Preparing, Training, and Recruiting High-Quality Teachers, Principals, and Other School Leaders (professional development and class size reduction)**
- Title III: Language Instruction for English Learners and Immigrant Students
- **Title IV: 21st Century Schools (Student Success and Academic Enrichment SSAE Grants; afterschool programs)**
- Title V: Flexibility and Accountability
- Title VI: Indian, Native Hawaiian, and Alaska Native Education
- Title VII: Impact Aid
- Title VIII: General Provisions

Main Areas of Funding for Science/STEM in ESSA



Using Federal Funds to Support STEM Education



The U.S. Department of Education letter will help state education agencies, districts, schools, and their partners better understand how to use Federal funds to support innovative, equity-focused Pre-K–12 STEM education strategies.



UNITED STATES DEPARTMENT OF EDUCATION

WASHINGTON, DC 20202

April 17, 2017

Resources for STEM Education

Ensuring that all students have access to science, technology, engineering, and mathematics (STEM) education is fundamental to the U.S. Department of Education's (Department) goal of providing equitable educational opportunities so that all students are prepared to succeed in college, careers, and life.

To further the goal of high-quality STEM education for all, Federal agencies, State educational agencies (SEAs), local educational agencies (LEAs), and private sector partners are encouraged to coordinate their efforts and to use modern research-based methods.

The purpose of this resource document is to help SEAs, LEAs, and their partners better understand how to use Federal funds to support innovative, equity-focused pre-kindergarten through grade 12 (Pre-K–12) STEM education strategies.

In order to help SEAs, LEAs, and their partners identify potential ways to use Federal formula grant funds to support STEM education, this resource document provides examples of how funds from Title I, Title II, Title III, and Title IV of the Elementary and Secondary Education Act (ESEA), as amended by the Every Student Succeeds Act (ESSA); the Individuals with Disabilities Education Act (IDEA); and the Carl D. Perkins Career and Technical Education Act of 2006 (Perkins) can support efforts to improve Pre-K–12 instruction and student outcomes in STEM fields.²

These examples fall into the following categories:

1. Increase students' equitable access to STEM courses and experiences, including out-of-school programs,³ STEM-themed schools, and career pathways;
2. Support educators' knowledge and expertise in STEM disciplines through recruitment, preparation, support, and retention strategies; and
3. Increase student access to materials and equipment needed to support inquiry-based pedagogy and active learning.⁴

Enhancing the impact of STEM education programs and maximizing the impact of available Federal resources necessitate leveraging various sources of support. For example, an SEA or

¹ For the purposes of this resource document, consistent with the Elementary and Secondary Education Act, as amended by the Every Student Succeeds Act (ESSA), all references to STEM include computer science.

² Although the examples provided in this resource document are limited to the ESEA, as amended by the ESSA; Perkins; and IDEA, funds from other formula and competitive grant programs administered by the Department may also be able to be used to support STEM learning.

³ The phrase "out-of-school programs" refers to expanded learning time, before- and after-school programs, and summer learning opportunities.

⁴ Active learning is a process whereby students engage in activities such as reading, writing, discussion, prototyping, or problem-solving that promote analysis, synthesis, and evaluation of course content.

Federal Programs and STEM



- **Title I** (the largest single funding stream), supports STEM coursework, the acquisition of tablets and laptops for STEM programs, and additional learning time.
 - \$\$: Schools get direct funding based on the # of free and reduced lunch students.
- **Title II** funds teacher professional development. Can be used to help teach STEM concepts to educators, provide stipends to recruit STEM teachers, and support generalists (like elementary teachers) who integrate more STEM into their classrooms.
 - \$\$: Congress provided \$2.2 B for this program in FY19. Needs assessment (teachers can participate) identifies key needs/areas in school and district; districts create school improvement plans and apply to state for these funds. Title II can be transferred into Title I.

Federal Programs and STEM



- Title IVA is the Student Success and Academic Enrichment Grants which can be used to expand science and STEM courses, expand access to underserved students, provide \$ for students to participate in competitions, and more.
 - \$:Congress provided \$1.1 7 Billion for the Title IV-A grant for FY19. Each state will receive an allocation based on their Title I funding formula. Using the same Title I formula, each state must allocate funds to school districts. Science and STEM part of Well Balanced education. Title IV can be rolled into Title I.
- Title IVB 21st Century Community Learning Centers fund after-school programs that can expand children's access to informal STEM education, high-quality STEM and computer science programs and “maker” activities to students in out-of-school learning settings



**Let's pause for two questions
from the audience**



Leveraging Federal Funds for STEM Education – Title I



- Update existing STEM-related labs and lab materials, or other specialized learning space.
- Support STEM coursework for students attending a Title I school operating a schoolwide program (consistent with the school's comprehensive needs assessment.)
- Support failing students to meet challenging State academic standards through expanded learning time, before- and after-school programs and summer programs and opportunities.
- Support field trips to increase access to real-world, hands-on STEM experiences, activities, and applications, including experiences that expand student knowledge of the impact of STEM in the world

ESSA Title II/A Teacher and Principal Quality Grant



- States and districts can use Title II to develop and provide professional development and other comprehensive systems of support “to promote high quality instruction and instructional leadership in STEM, including computer science.”



Title II A funds can be used to:



- Train or provide **professional development** to educators on incorporating technology into effective STEM instruction through personalized learning or blended learning
- Hire **STEM coaches** to help grantees tailor professional learning to the needs of individual educators.
- Provide **differential or incentive pay** for educators in high-need subject areas, such as STEM,
- Facilitate collaboration among school, **after-school program, and informal** program personnel to improve the integration of programming and instruction in STEM subjects
- Provide **professional learning** opportunities to educators
- Support educators as they implement new courses, such as **computer science and engineering**
- Support educators to **effectively teach students with disabilities** in STEM subjects
- **Support elementary STEM teachers**, including preschool educators, to incorporate STEM learning experiences into their classrooms



ESSA Title IV/A Student Success and Academic Enrichment Grants (SSAE)



These block grants are intended to improve students' academic achievement by helping districts to

- provide all students with access to a **well-rounded education**;
- improve **school conditions for student learning**; and
- improve the use of **technology** in order to improve the academic achievement and digital literacy of all students.



ESSA Title IV/A Student Success and Academic Enrichment Grants (SSAE)



Schools or districts that receive an allocation **above** \$30,000 must do a needs assessment and spend:

Schools or districts that receive an allocation **below** \$30,000



Well rounded education

STEM

Music

Art

Physical Education



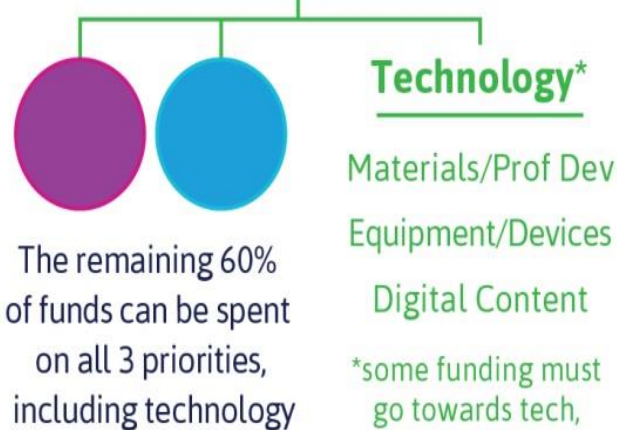
Safe schools

Healthy students

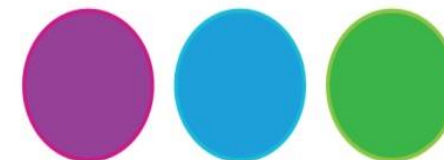
Violence prevention

School counselors

Mental health



*some funding must go towards tech, with a 15% cap on infrastructure



Spend money on activities in at least one of the three categories

Title IV/A Student Support and Academic Enrichment Grants



Can be used by districts for:

- Safe and drug free schools
- Mental health counselors
- Counseling
- Music education
- Civics
- IB/AP testing
- STEM ★

And for . . .

- Drug and violence prevention
- Training on trauma-informed practices,
- Health and physical education
- Effective use of technology

STEM-specific Uses of Funding Under Title IV/A



Title IV/A supports activities to provide students with a well-rounded education. Districts can use these funds to:

- Expand high-quality STEM courses;
- Increase access to STEM for underserved and at risk student populations;
- Support student participation in STEM nonprofit competitions;
- Provide hands-on learning opportunities in STEM;
- Integrate other academic subjects, including the arts, into STEM subject programs;
- Create or enhance STEM specialty schools – new definition created;
- Integrate classroom based and afterschool and informal STEM instruction; and
- Expand environmental education.



Title IVA Funding Selected States



STATE	FY18 Est	FY19 Est
• Nevada	9140879	9497308
• New Jersey	25297792	26038599
• New York	84067644	87835412
• NC	31324531	32679807
• Ohio	37642720	39979194
• Oregon	10489104	10363609
• PA	43155385	46529542
• SC	16852502	17618928
• TN	20894466	22121798
• Texas	98389972	109676119

Title IVA Funding Selected States

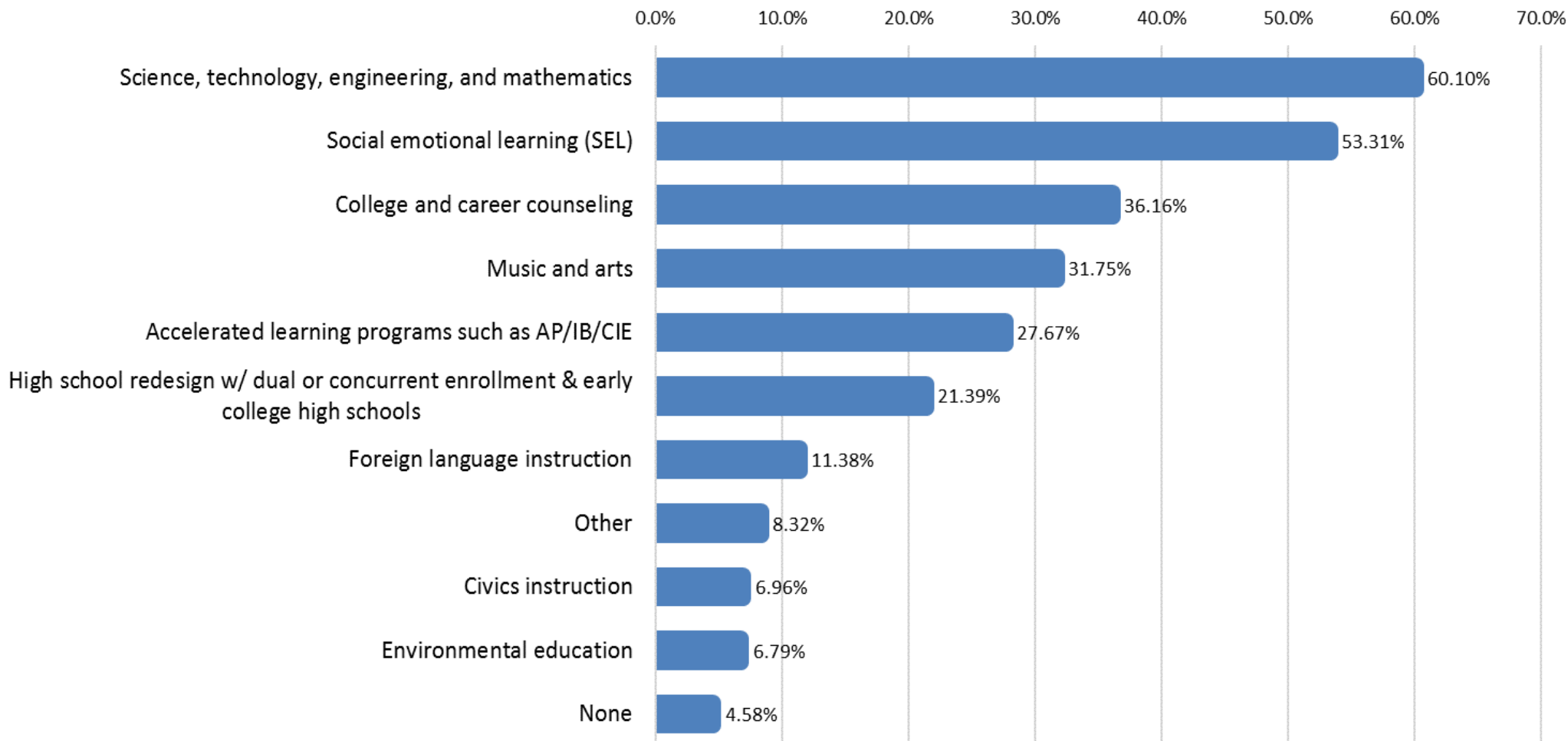


STATE	2018 Est	2019 Est
• Alabama	17327002	17923768
• California	127291818	143389327
• Colorado	10458031	11078885
• Florida	59991556	62276197
• Georgia	37419117	38373657
• Louisiana	21939702	24596696
• Maryland	16159195	17474310
• Mass	16942161	16857655
• Michigan	34656109	34468729
• Minnesota	11272132	12250413
• Missouri	17351198	17302502

Will Title IV Be Used for STEM?



What are the likely investments to support Well-Rounded Educational Opportunities?



21st Century Community Learning Centers



Afterschool & Summer Learning Programs in Safe and Easily accessible facilities: Schools • Churches • Park and Recreation Centers • Community Centers • Child Care Facilities

Eligible Grantees: schools, CBO, non profit, college/university, city, park and rec, museums, libraries, faith based orgs, for profits, charter schools.

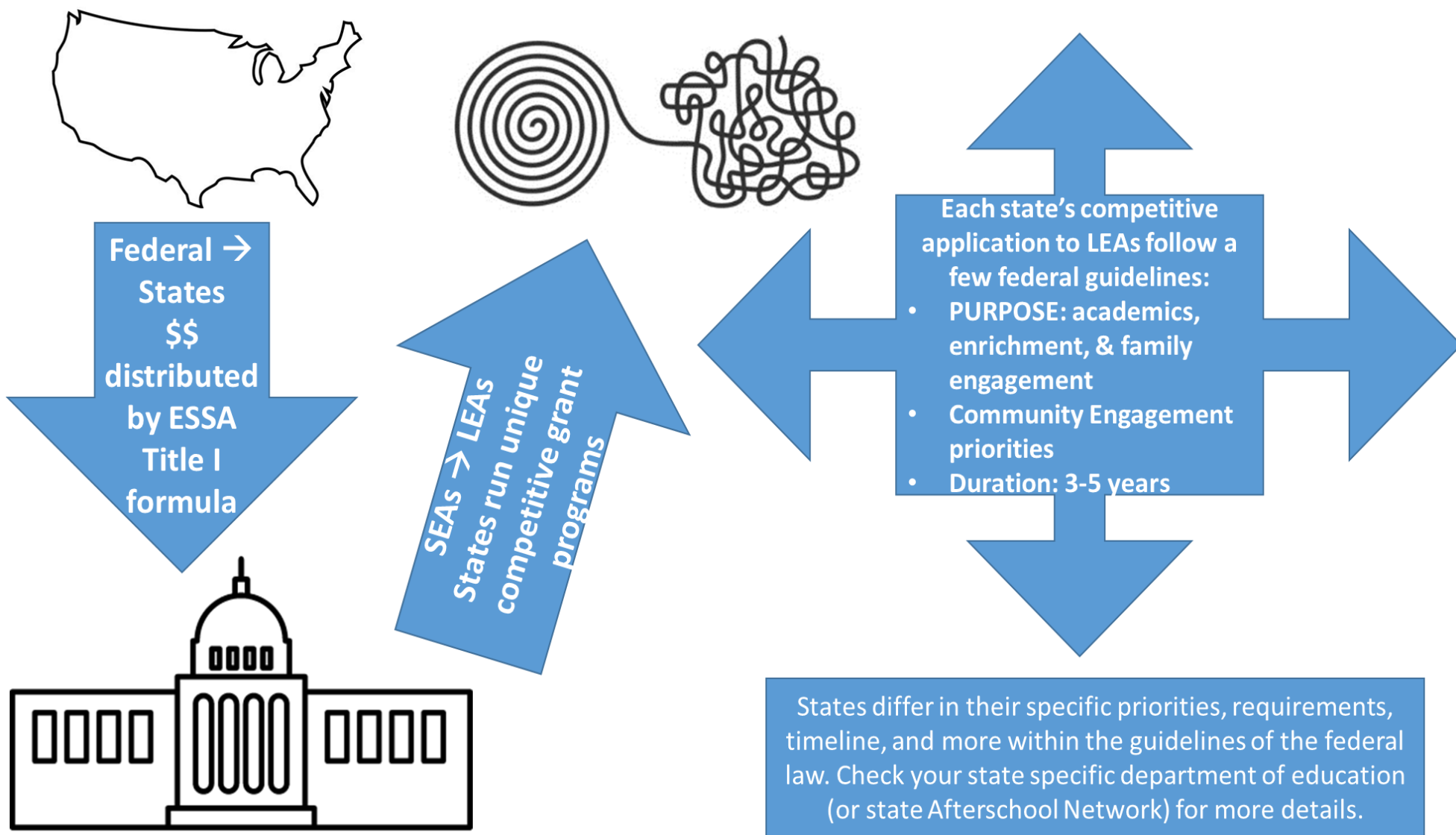
- 2 in 5 are CBO, faith based, private schools or charter schools
- 3 in 5 are school districts

Partnerships are critical: average grantee has 9 partner orgs.

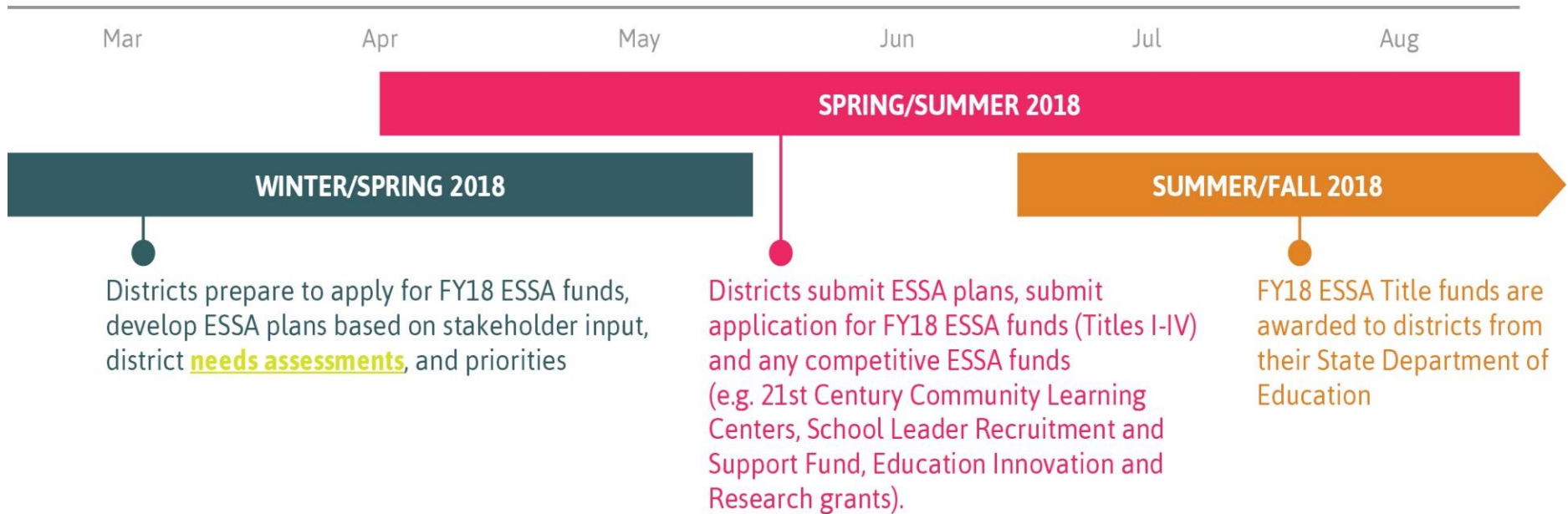
Grant Competitions held on a mostly annual basis by State Education Agencies; Grants last 3 to 5 years.



Title IVB 21st Century Community Learning Programs



How Do Districts Get These Federal Funds



Implementing ESSA at the district and school levels .



Who in your district is responsible for developing school improvement plans and needs assessment.

Who in your district/school will be making the decision about how federal funds are going to be used?

Is science/STEM included in your district Title I school improvement plan?

Who will be doing the needs assessments and the district plans when they submit for Title II and Title IV dollars?

Where will science/STEM be in these plans?



Final Notes . . .



TITLE IV-A COALITION

DAY OF ACTION, April 10, 2019

NSTA website

<http://www.nsta.org/about/clpa/>

Final, Final Word



- We need evidence of how Title IVA funds are being used for STEM education. Let us know if you are using these funds!
- Download the Dept. of Education letter to help SEAs, LEAs, and partners better understand how to use Federal funds to support STEM education strategies under Every Student Succeeds Act (ESSA) at <https://www.nsta.org/about/clpa/>

Thank You



Questions? Or for more information, contact:

Jodi Peterson

Assistant Executive Director, Communications,
Legislative, and Public Affairs

National Science Teachers Association

Chair, STEM Education Coalition

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www.nsta.org

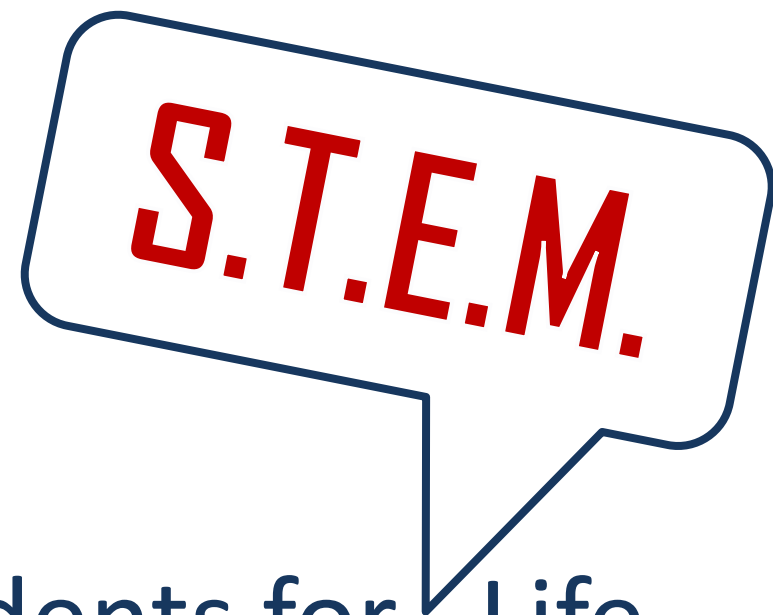
www.stemedcoalition.org

Follow me @stemedadvocate



**Let's pause for two questions
from the audience**





Preparing Students for Life



Larry R. Plank, Ed.S.
Director for K-12 STEM Education
Hillsborough County Public Schools



Advisory Chair and Founder
Tampa Bay STEM Network



President Elect, 2019/2020
National Science Education Leadership Association





Preparing Students for Life



Hillsborough County Public Schools
Strategic Plan
2015-2020

Preparing Students for Life



One Plan. One Vision.



Are we educating students to truly compete globally?



Singapore 1965



Singapore 2015

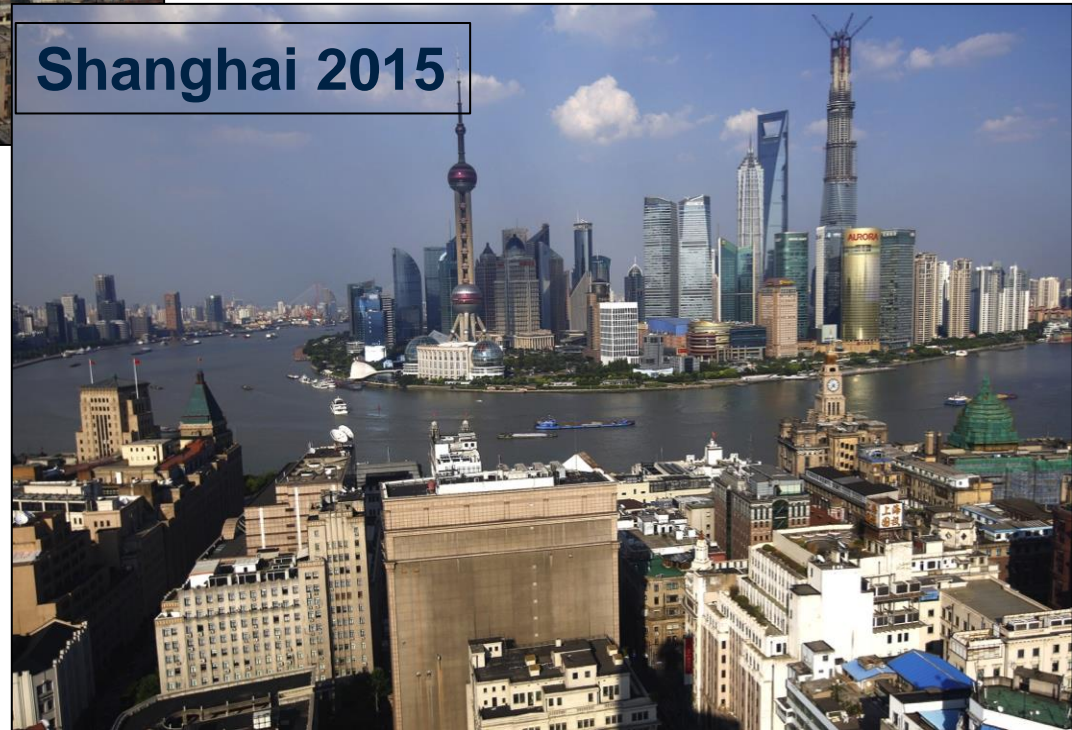
Are we educating students to truly compete globally?



Shanghai - 1987



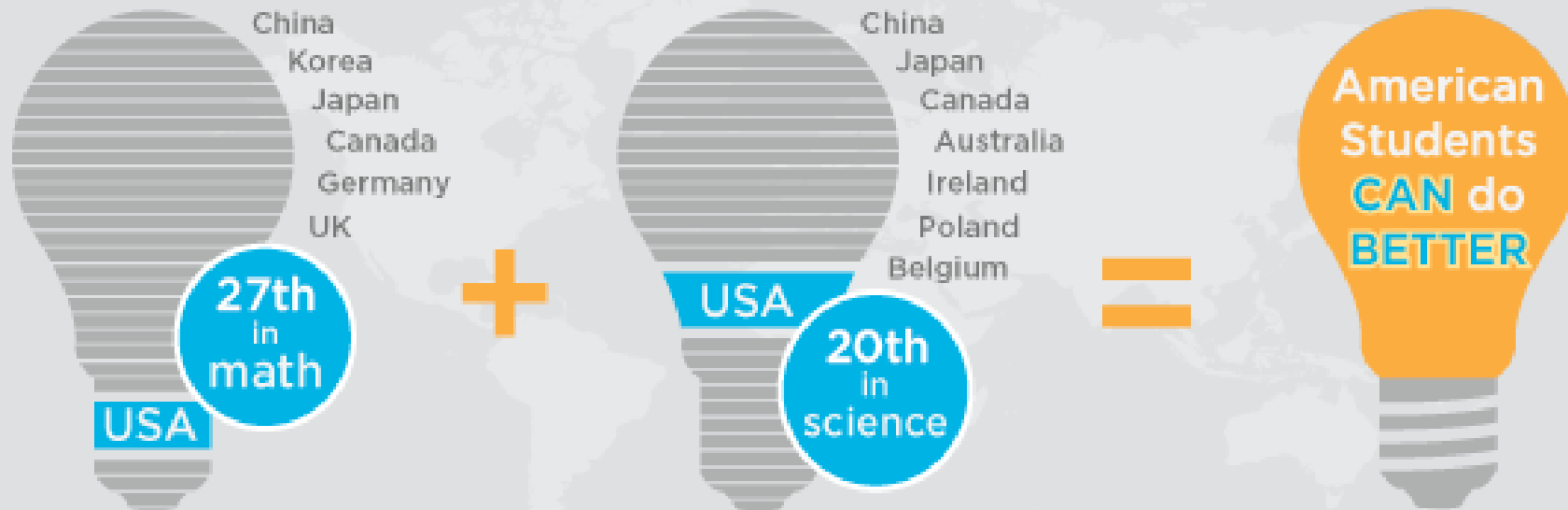
Shanghai 2015





Preparing Students for STEM Life

We face a shortage of workers and students proficient in math and science. Compared to their global peers, U.S. students recently finished...





Preparing Students for STEM Life

Students who excel in STEM areas...

- **Enjoy** school more than their counterparts.
- Are more **engaged** in their school community through clubs, extra-curricular activities, school government, and community service projects.
- Are more likely to **graduate**.
- Have **multiple contexts** in which they develop their STEM skill set.



What is a STEM Skill Set?



STEM 101: Intro to tomorrow's jobs



Thinking Skills

- Creativity
- Problem-solving ability

Communication Skills

- Technical writing
- Interpersonal communication
- Public speaking



HCPS STEM Vision

***ALL** students will utilize mathematical skill and apply science conceptual understanding in a deeply technical environment to solve real-life problems using engineering principles and design thinking.*

***ALL** students will be immersed in competitions and events that afford the opportunity to enjoy science, technology, engineering and mathematics while applying concepts learned in the classroom.*





HCPS STEM Vision

Standards-based instruction that supports STEM learning through integration of content

College and career pathways that support the workforce of tomorrow

Cross-sector partnerships to support STEM outcomes
(ABCs of STEM)

Value-added opportunities for STEM learning



Tampa Bay STEM Network





Tampa Bay STEM Network

STEM Learning Ecosystems Strategy Framework



STRATEGY 1.
CULTIVATING CROSS-
SECTOR PARTNERSHIPS



STRATEGY 2.
CREATING AND CONNECTING STEM-
RICH LEARNING ENVIRONMENTS



STRATEGY 3.
EQUIPPING EDUCATORS



STRATEGY 4.
SUPPORTING YOUTH PATHWAYS



Tampa Bay STEM Network

PreK-12 school system
receptive to external
partnerships

High-quality **after school**
programs

Out-of-school STEM-rich
programs such as expert
museums, science centers,

Institutions of **higher**
education

Private sector STEM-focused
businesses

Parent and community-
based organizations



Hillsborough County
PUBLIC SCHOOLS
Excellence in Education



MOSI
MUSEUM OF SCIENCE & INDUSTRY



THE FLORIDA
AQUARIUM 
DOWNTOWN TAMPA



UNIVERSITY OF
SOUTH FLORIDA



ALLIANCE
FOR
PUBLIC
SCHOOLS



CONNECTING KIDS TO GREATNESS
HILLSBOROUGH
EDUCATION
FOUNDATION



Tampa Bay STEM Network

- **Building the capacity** of educators in all sectors.
- Equipping educators with **tools and structures** to enable sustained collaboration.
- **Linking** in- and out-of-school STEM learning.
- Creating **learning progressions** that connect and deepen STEM experiences over time.
- Focusing instruction on **inquiry, project-based learning** and real-world connections to increase relevance.
- Engaging **families** and communities.
- Exposing young people to potential STEM **careers**.



MWM·FL
Million Women Mentors® – Florida
Advancing Women and Girls in STEM Careers Through Mentoring





Title IV – An Incredible Opportunity

“Well-rounded Education”

- STEM
- STEAM
- Entrepreneurial Education
- Out of School Time



**Let's pause for two questions
from the audience**



Thanks to today's presenters...



Jodi Peterson

Assistant Executive Director of Legislative and Public Affairs
National Science Teachers Association



Larry R. Plank

Director of Science, Technology, Engineering and
Mathematics Education
Hillsborough County Public Schools



Missi Zender-Sakach

President
National Science Education Leadership Association



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Carolyn Mohr, NSTA LC